

NADY[®] AUDIO

OWNER'S MANUAL



XA SERIES

STEREO POWER AMPLIFIERS

XA SERIES

STEREO POWER AMPLIFIER



Congratulations on your choice of stereo power amplifiers — you have purchased one of the finest stereo amplifiers on the market today. This unit was developed using the expertise of professional sound engineers and working musicians. You will find that your new NADY AUDIO XA-900/1100 has superior performance and greater flexibility than any other amplifiers in its price range. Please read this manual carefully to get the most out of your new unit.

Thanks for selecting NADY AUDIO as your choice in stereo power amplifiers.

FEATURES

Offering top power, superior performance and full professional operating features in a roadworthy compact chassis, the XA Series are perfect for even the most demanding sound reinforcement installation and touring applications.

The operating instruction in this manual are for the XA-900 and XA-1100 power amplifiers. The operation and functions of these units are the same, except as noted.

- Full operating features: detent volume controls; parallel balanced XLR and 1/4" TRS inputs; stereo (dual channel), parallel input, or bridged mono operating modes with selector switch; binding post (banana plug) outputs; ground lift switch
- Full safety/reliability features: 2 dual speed fans for cooling; soft-start turn on, noise-free on-off; built-in DC offset; independent DC and thermal overload protection on each channel; short circuit and speaker protection; DC servo operation; built-in digital current limiter
- Power ON, Clip, Signal, and Protect LED indicators for each channel
- Roadworthy, rugged double rack space (2U) housing
- ~115(60Hz)/~230V(50Hz) AC select switch and IEC power cord connector with built-in fuse
- XA-900 - 2 x 300W @ 4Ω, 2 x 400W @ 2Ω
Bridged mono: 675W @ 4Ω
- XA-1100 - 2 x 475W @ 4Ω, 2 x 730W @ 2Ω
Bridged mono: 1100W @ 4Ω

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Date of Purchase _____

Dealer's Name _____

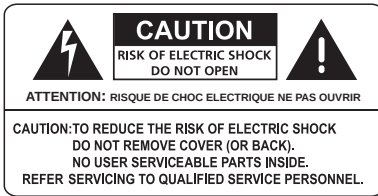
City _____

State _____ Zip _____

Model # _____

Serial # _____

WARNING



An equilateral triangle enclosing a lightening flash/arrowhead symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure which may be of sufficient magnitude to constitute a risk of electric shock.



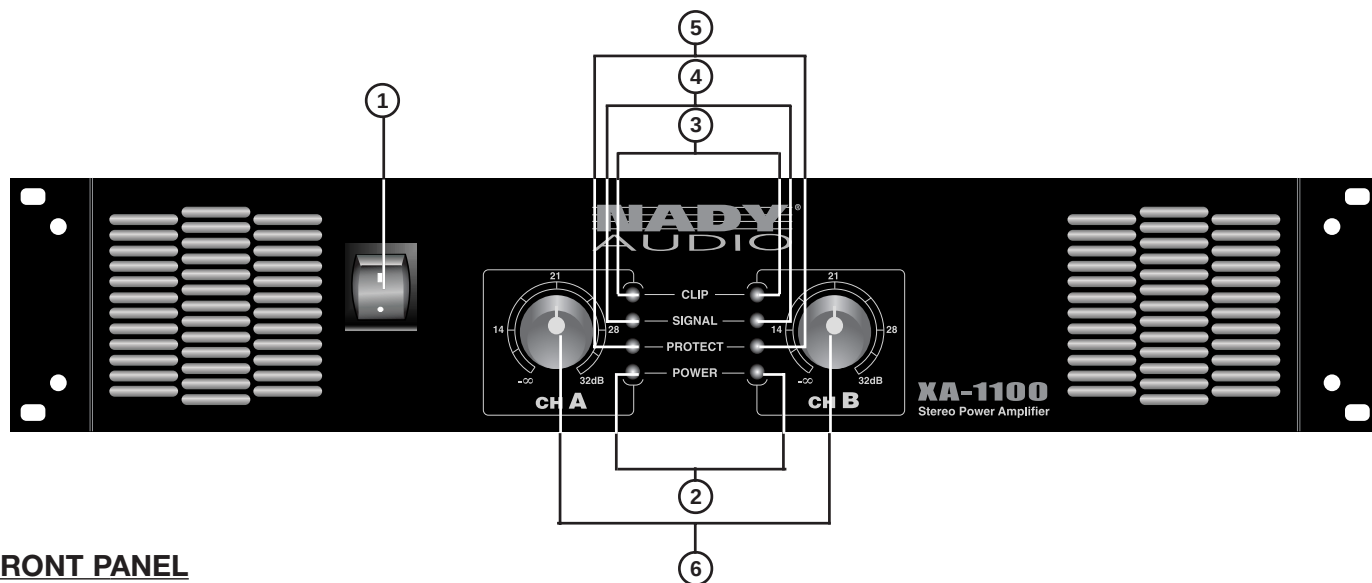
An equilateral triangle enclosing an exclamation point is intended to alert the user to the presence of important operating and service instructions in the literature enclosed with this unit.

IMPORTANT SAFETY INSTRUCTIONS

When using this electronic device, basic precautions should always be taken, including the following:

1. Read all instructions before using the product.
2. Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, etc.).
3. This product should be used only with a cart or stand that will keep it level and stable and prevent wobbling.
4. This product, in combination with headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be positioned so that proper ventilation is maintained.
6. The product should be located away from heat sources such as radiators, heat vents, or other devices (including amplifiers) that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product. Replace the fuse only with one of the specified type, size, and correct rating.
8. The power supply cord should: (1) be undamaged, (2) never share an outlet or extension cord with other devices so that the outlet's or extension cord's power rating is exceeded, and (3) never be left plugged into the outlet when not being used for a long period of time.
9. Care should be taken so that objects do not fall into, and liquids are not spilled through, the enclosure's openings.
10. The product should be serviced by qualified service personnel if:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen into, or liquid has been spilled onto the product.
 - C. The product has been exposed to rain.
 - D. The product does not appear to operate normally or exhibits a marked change in performance.
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond what is described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.

FRONT & REAR CONNECTIONS



FRONT PANEL

1. POWER SWITCH

To turn the unit ON or OFF, press the upper or lower portion of this button. Before turning on the amplifier, check all connections and turn down the level controls. A momentary muting is normal when turning the amplifier on or off.

(Caution: Always turn on your power amplifier last, after all your other connected equipment, and always turn off your power amplifier before your other connected equipment.)

2. POWER LED INDICATORS

These LEDs illuminate when the power is turned "ON".

3. CLIP (PEAK) LED INDICATORS

These LEDs illuminate if any section of the power amplifier's output are within 3dB of clipping. Occasional blinking of the LEDs are acceptable, but if they remain on more than intermittently you should turn down either the power amplifier's level controls or

reduce the output level of the preceding component to avoid audible distortion.

4. SIGNAL LED INDICATORS

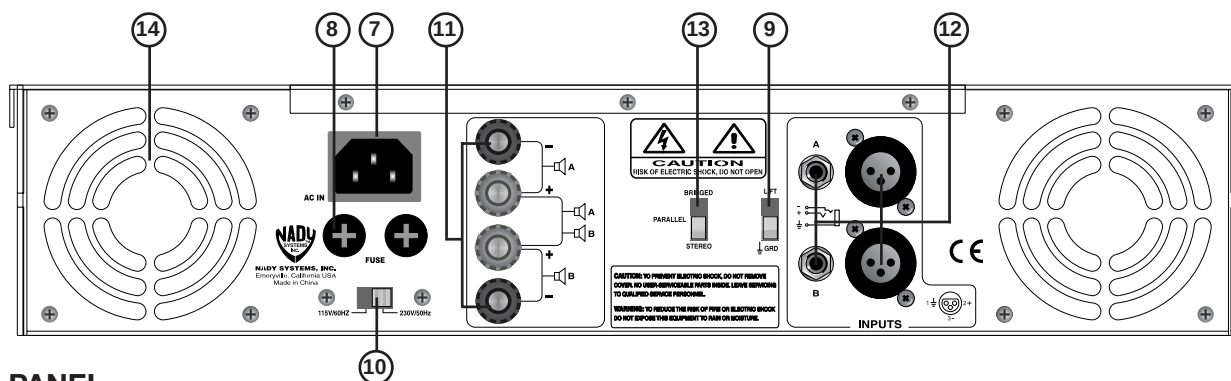
These LEDs illuminate to confirm the presence of an input signal greater than 100 mV at that channel of the amplifier

5. PROTECT LED INDICATORS

These LEDs illuminate if the power amplifier's output connection is shorted or the load impedance is too low. When either of these LEDs is lit up, turn OFF the power and check the output's connection to verify that it is correct, then turn ON the power again.

6. LEVEL CONTROLS

These control the level of signal coming into each channel. The actual voltage gain of the amplifier is shown in dB. Turn these controls counterclockwise if the peak LEDs illuminate steadily (indicating too strong an input signal).



BACK PANEL

7. POWER CONNECTOR

The cord connector is used to connect the AC power source to your power amplifier.

(CAUTION: DO NOT REMOVE THE CENTER GROUNDING PIN.)

8. FUSES

Fuse holders for 20A/250V 3AG fuses. If these fuses continuously blow, shut off the unit and have it serviced by qualified service personnel.

9. GROUND LIFT SWITCH

Switch to right to disconnect the chassis from ground if necessary to eliminate hum caused by ground loops.

10. AC VOLTAGE SELECTOR SWITCH

Before plugging in the power cord, check to see that the unit is set for the proper voltage for your area: ~115V (60Hz) or ~230V (50Hz). A cover plate is provided to ensure that this switch is not accidentally reset or tampered with between uses.

FRONT & REAR CONNECTIONS

11. L/R CHANNEL OUTPUT CONNECTORS

Connections are as depicted on the rear panel and in the following **CONNECTIONS** section on page 7 of this manual.

12. BALANCED INPUT CONNECTORS (1/4" TRS & XLR)

These 1/4" (6.3mm) TRS (Tip/Ring/Sleeve) phone jacks and XLR jacks are compatible with balanced inputs and are wired as Tip/Pin 3 = (+), Ring/Pin 2 = (-), and Sleeve/Pin 1 = Ground. Normal maximum input level at clipping is 1.15V RMS (+ 4dB). Input impedance is 10K Ohms. Since the TRS phone jacks and XLR jacks are wired internally in parallel, you can parallel this unit with another amplifier by using either the LINE 1/4" jack or the XLR jack (depending on which you're using to input your signal) to output the signal to the input jack of the other amplifier.

The 1/4" TRS phone jacks can also be used for unbalanced inputs. For TRS phone plugs, simply connect the unused side of the balanced input to ground. For 1/4" TS phone plugs, no change is necessary for compatibility with this input. Balanced input signals are recommended as they are less prone to AC hum. For long cable runs a source of less than 600 ohms output impedance is needed to avoid signal loss. For short cable runs an unbalanced signal input should be suitable.

For stereo (two-channel) operation, use the inputs for both CH-A and CH-B; for parallel or bridged mono operation, use only CH-A input. (See **MODE SELECTOR SWITCHES** below for more explanation.)

13. MODE SELECTOR SWITCH

The XA Series amplifiers offer 3 modes of operation: PARALLEL, STEREO & BRIDGED. Slide the switch to one of the three positions for you application.

- **PARALLEL (MONO) INPUT** - This mode allows both channels to operate in parallel with the same signal and without requiring a Y-cord. In this mode the inputs for both channels are

internally connected, so that you only need to feed a signal into one of the channels. This still allows independent control of each channel. *(Note: Do not select this "Parallel" mode when feeding the amplifier 2 separate signals.)*

(Note: Do not use both unbalanced and balanced cables in the same set-up as that can unbalance the connections resulting in hum.)

- **STEREO INPUT** - This is the most common mode generally used, and allows independent control of 2 separate signals such as stereo playback, main and monitor live mixes, and bi-amp operation (highs in one channel and lows in the other).

- **BRIDGED MONO** - This mode combines the power of both channels to drive a single speaker. In this mode the amp produces 4 times the peak power and 3 times the sustained power into a 4 or 8 ohm speaker than each channel can deliver separately in stereo or parallel mode.

(CAUTION: In this mode the amplifier can deliver high power into a speaker. Make sure that the speaker, connectors and wiring can handle this output. Note that for prolonged overdriven outputs into a 4 ohm speaker the breaker may trip, so care must be taken not to overload the amplifier in such operation.)

Connect the input signal to CH-A input for bridged mono operation.

14. FANS

The two dual-speed fans switch between idle speed and high speed automatically to maintain the proper internal operating temperature.

INSTALLATION

To ensure years of enjoyment from your NADY AUDIO XA-900/1100, please read and understand this manual thoroughly before using the unit.

INSPECTION

Your XA -900/1100 was carefully packed at the factory in packaging designed to protect the units in shipment. Before installing and using your unit, carefully examine the packaging and all contents for any signs of physical damage that may have occurred in transit.

(Note: Nady Systems is not responsible for shipping damage. If the unit is damaged, do not return to us, but notify your dealer and the shipping company immediately to make a claim. Such claims must be made by the consignee in a timely manner.)

CONTENTS

- Instruction manual
- XA-900/1100 (verify that the unit's serial number is same as shown on shipping carton)
- AC Power cord
- Warranty Card

RACK MOUNTING

The XA Series amplifiers are designed for standard 19" rack mounting as well as "stack" mounting without a cabinet. Use 4 screws and washers for mounting to the front rack rails. It is also a good idea to support the amps also in the rear, especially for mobile use where the amps will be subjected to shocks.

AMPLIFIER COOLING

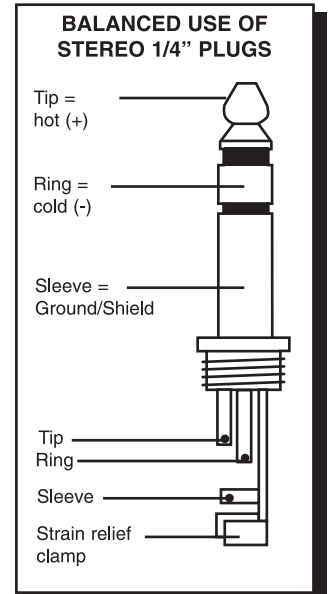
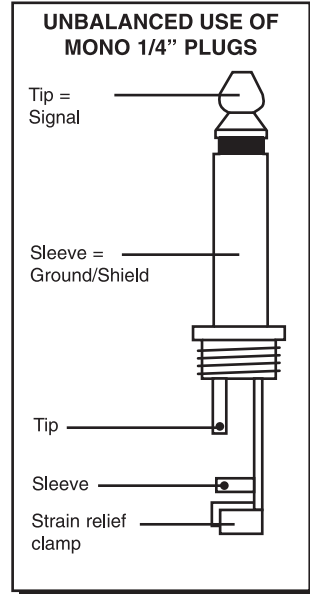
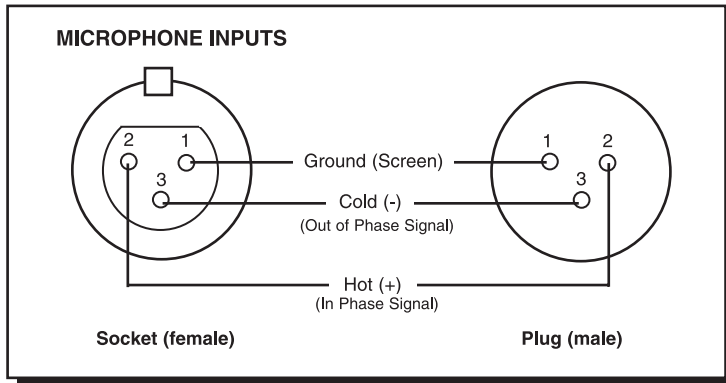
Also pay close attention to the cooling requirements. Never block the air vents in the back side and front of the amplifier if the load seen by amplifier is less than 4 ohms and the amplifier is being run at high output levels. For best results, in such high output power applications you should augment the amplifier's air flow with a rack cooling system.

CONNECTIONS

The following instructions describe the most common ways to install your amplifier into a sound system.

1. Turn off the amplifier power switch before making any connections.
2. The XA Series amplifiers may be operated in one of three modes (stereo, bridged-mono, and parallel mono). Refer to the following wiring diagrams for the speaker connections you wish to make.

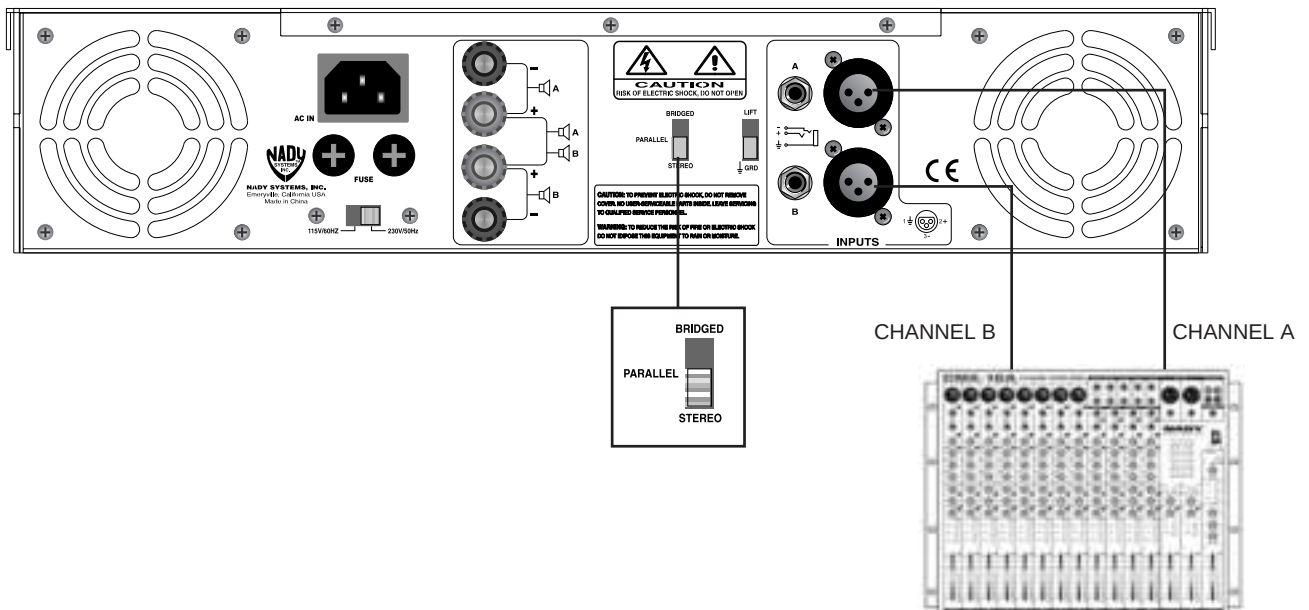
(Note: Nady Systems assumes no liability for damaged speakers resulting from improper wiring, careless amplifier use, or over powering.)



• Stereo (Two-Channel) Mode

To put the amplifier into stereo mode, first turn the amplifier off, then slide the **MODE SELECTOR SWITCH (13)** to the bottom "STEREO" position, and properly connect the input/output wiring as shown.

(Note: Do not connect a speaker load less than 2 ohms as it can damage your amplifier.)



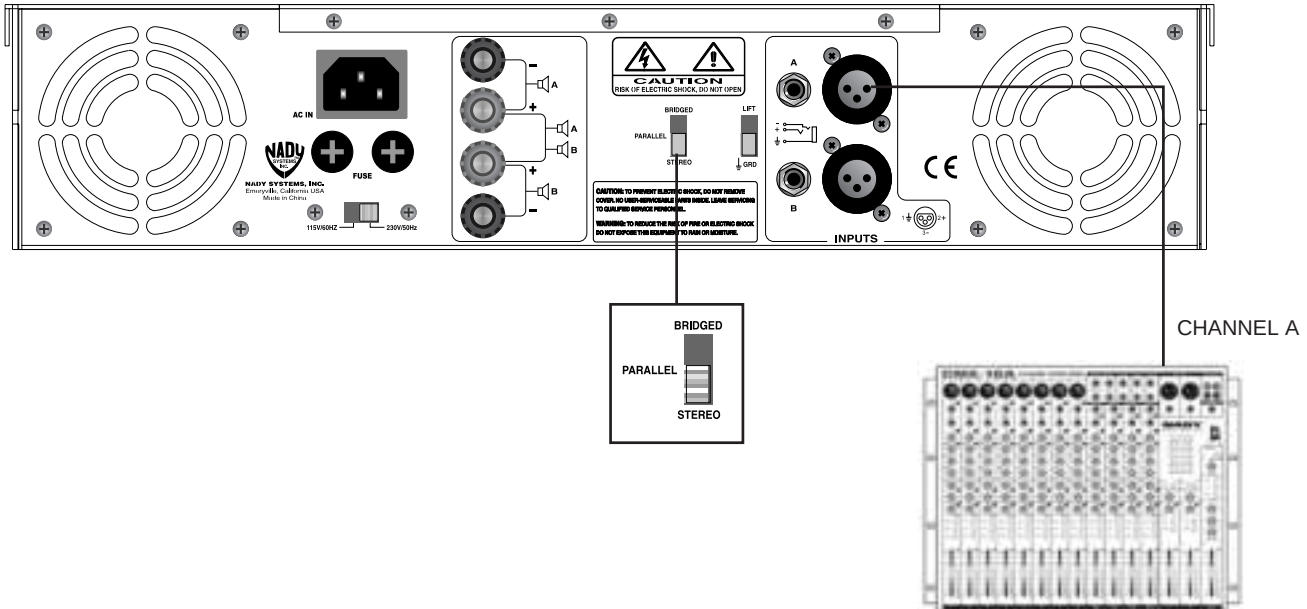
CONNECTIONS

• Parallel (Mono) Mode

To put the amplifier in parallel-mono mode, first turn the amplifier off, then slide the **MODE SELECTOR SWITCH (13)** to the middle “PARALLEL (MONO)” position and properly connect the input wiring as shown. A signal into any input jack will drive both channels directly. You can patch the input signal on to any other amps using any of the remaining input jacks.

(Note: Do not connect a speaker load less than 2 ohms as it can damage your amplifier.)

[Note: Do not use the “PARALLEL (MONO)” switch when feeding the amp 2 separate signals.]

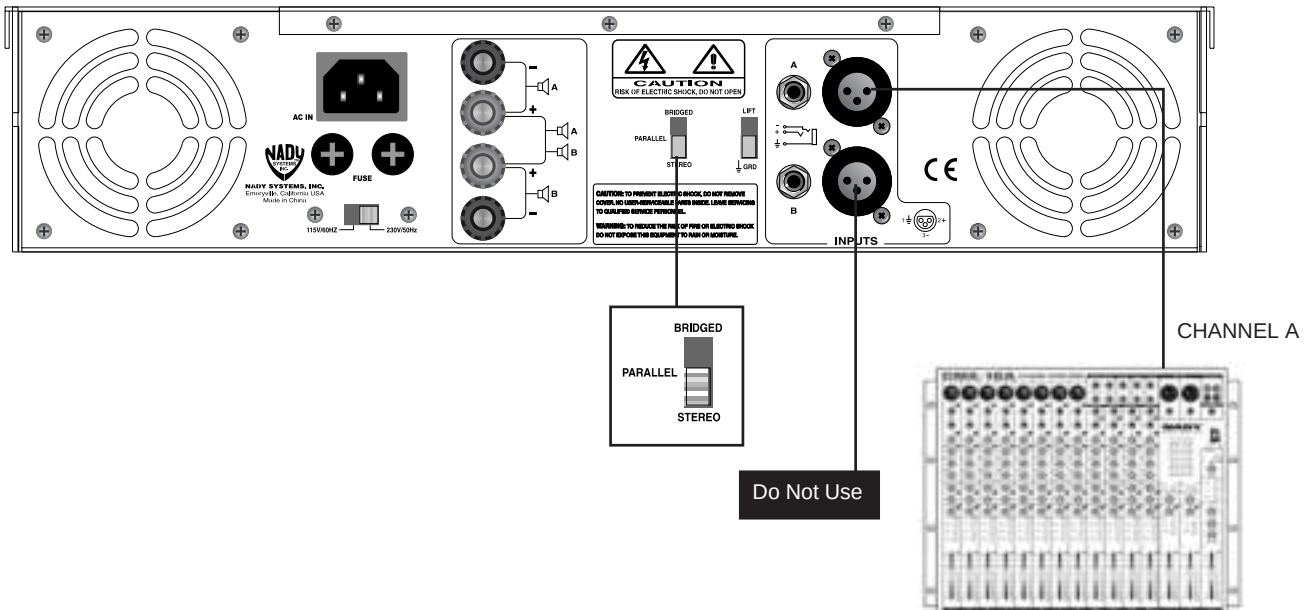


• Bridged Mono Mode

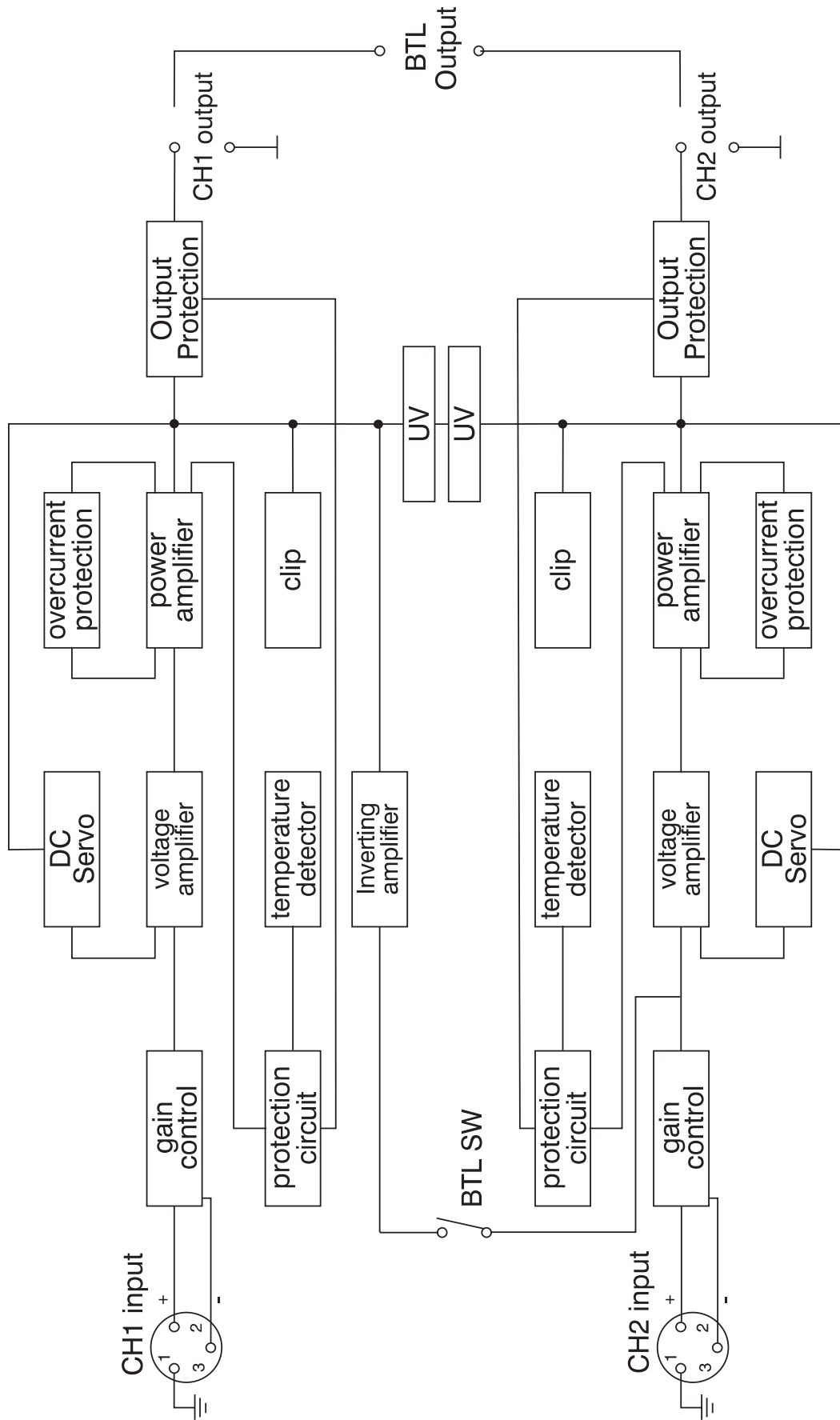
To put the amplifier in bridged mono mode, turn the amplifier off and slide the **MODE SELECTOR SWITCH (13)** toward the top “BRIDGED” position and properly connect the input/output wiring as shown. The signal is input into CH-A. Keep the level control of channel “B” turned completely down (counter clock wise).

(Note: Do not connect a speaker load of less than 4 ohms as it can damage your amplifier.)

(Note: This mode produces a large amount of power. Be sure that your wiring and speaker can handle it.)



BLOCK DIAGRAM



SPECIFICATIONS

POWER SPECIFICATIONS		XA-900	XA-1100
EIA OUT POWER	2Ω	400 + 400	730 + 730
1HZ, THD MAXIMUM 1%	4Ω	300 + 300	475 + 475
BOTH CHANNELS	8Ω	200 + 200	300 + 300
	Bridged 4Ω	675	1100

ELECTRICAL SPECIFICATIONS	XA-900	XA-1100
INPUT SENSITIVITY	1.15V (+3.4dBu)	1.15V (+4dBu)
INPUT IMPEDANCE	10KΩ Unbalanced & Balanced	
FREQUENCY RESPONSE (at 10dB below rated output power)	20Hz~20KHz +/-1dB -3dB points:5Hz~50KHz	
VOLTAGE GAIN	32dB	34dB
DISTORTION (SMPTE-1M)	<0.03%	<0.03%
S/N RATIO	100dB	100dB

GENERAL SPECIFICATIONS	XA-900	XA-1100
PROTECTIONS	Full short circuit, open circuit, thermal, ultrasonic, and RF protection; stable into reactive or mismatched loads; ON/OFF muting; current limiter (crowbar)	
CONTROLS	Front: Power switch, 40 dB input level control for each channel. Rear Parallel/Mono/Bridge selector, ground lift switch, AC voltage selector switch	
INDICATORS	SIGNAL 2x green LED CLIP: 2 x red LED POWER: 2 x green LED PROTECT: 2 x red LED	
CONNECTORS	POWER: IEC power cord jack	
	INPUT: Active balanced XLR and 1/4" 6.3mm) TRS OUTPUT: "Touch-proof" binding posts	
POWER SUPPLY	Voltage selectable: 110-120V or 220~240V AC 50/60Hz	
FUSES	3AG, 20A/250V (X2)	
DIMENSIONS	19.0" x 15.7" x 3.5" (483 x 400 x 88.8mm)	
WEIGHT	38.5lb (17.5Kg)	41.8lb (18.8Kg)

The specifications above are correct at the time of printing of this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.

SERVICE FOR YOUR NADY AUDIO PRODUCT

(U.S.) Should your NADY AUDIO product require service, please contact the Nady Service Department via telephone at (510) 652-2411, or e-mail at service@nady.com.

(International) For service, please contact the NADY AUDIO distributor in your country through the dealer from whom you purchased this product.

DO NOT ATTEMPT TO SERVICE THIS UNIT
YOURSELF AS IT CAN BE DANGEROUS AND
WILL ALSO VOID THE WARRANTY.



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